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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,745	03/15/2001	Emanuele Ostuni	H0498/7135 TJO	4346

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EXAMINER

WARE, DEBORAH K

ART UNIT	PAPER NUMBER
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1651

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DATE MAILED: 02/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,745

Applicant(s)

Ostuni et al.

Examiner

Deborah Ware

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 29, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 45 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 9 6) ☐ Other: _____

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Claims 1-23 and 45 are presented for reconsideration on the merits. Claims 24-44 have been canceled by the amendment filed October 29, 2002. All amendments of October 29, 2002, have been entered.

Further, the IDS (Information Disclosure Statement) filed October 28, 2002, has been received and the references considered as indicated on the enclosed PTO-1449 Form.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-23 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over newly cited WO 99/54786 in view of Singhvi et al., previously cited of record in the last Office action at pages 4-5.
2. Applicants arguments presented in the amendment of October 29, 2002, are not deemed persuasive but nonetheless a new art reference is being applied herewith in combination with the previously cited art. In response to Applicants alleged arguments that a masking system is not taught, suggested or motivated by Singhvi et al., it should be noted that Singhvi clearly teach a masking system wherein a mask may be positioned between a surface and a source of irradiation to form a patterning device per se. Note col. 6, lines 30-50. A masking system is at least suggested by Singhvi et al. However, Applicants' arguments have overcome the alternative 102 rejection of the last office action.
3. The newly applied art rejection(s) are set forth as follows:

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4. Claims are drawn to a method of patterning cells comprising: shielding a first portion of a surface of an article with a masking system comprising a mask in contact with a surface, applying an agent through a channel within the masking system to a second portion of the surface and applying cells. The mask is flexible and includes a first surface and an opposing second surface and the channels connect the surfaces.

5. WO 99/54786 teaches shielding a first portion of a surface of an article with a masking system comprising a mask in contact with a surface, applying an agent through a channel within the masking system to a second portion of the surface. Note page 35, lines 1-30. Furthermore, at page 20, lines 5-10, a biochemical agent can include a biotin linker while the surface carries immobilized avidin and biochemical interactions can take place at regions of the surface and in the channels. Also at page 21, lines 4-10, biochemical recognition between antibody/antigen, antibody/hapten, enzyme/substrate, protein/substrate, etc. are disclosed as being exploited to trap biologicals at regions of the substrate using other agents that have been immobilized at those regions via a masking system.

6. Singhvi et al. is discussed above and in the prior action. Furthermore, Singhvi et al. clearly disclose their method of patterning cells to comprise applying cells onto the agent.

7. The claims differ from WO 99/54786 in that applying cells onto the agent is not clearly disclosed.

8. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was filed to combine the disclosed method of WO 99/54786 with the teachings of

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Singhvi et al. in order to provide a method for patterning cells, comprising shielding a first portion of a surface of an article with a masking system comprising a mask in contact with a surface, applying an agent through a channel within the masking system to a second portion of the surface and applying cells to the agent. Singhvi clearly teach applying cells to surfaces of the article or device of their disclosure. WO 99/54786 clearly teach biochemical recognition involving partners which can also be exploited to trap biological agents (i.e. cells) at regions of the substrate of the device or article using other agents that have been immobilized at regions via a mask. Note page 21, lines 1-10. The trapped biological agents clearly reads on cells per se. The suggestion is clear with the newly applied art combination that one of skill in the art would have been motivated to apply cells onto the agent via a masking system. Each of the claim limitations are disclosed or are at least suggested by the WO patent and Singhvi. Protein agents are clearly disclosed, and fibronectin is at least suggested. Cell-adhesion promoters and inhibitors are clearly disclosed by Singhvi et al. Note col. 2, lines 40-60. The claims are clearly prima facie obvious over the cited prior art.

9. Claims 1-23 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singhvi et al. in view of WO 99/54786, both discussed above.

Claims are discussed above.

Singhvi clearly teaches all of the aspects of the claimed invention with the exception of shielding and allowing an agent to be applied through a channel within a masking system.

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WO patent clearly teaches shielding a first portion of a surface of an article with a masking system comprising a mask in contact with a surface, applying an agent through a channel within the masking system to a second portion of the surface.

It would have been obvious to one ordinary skill in the art at the time the claimed invention was filed to combine the teachings of Singhvi and WO patent, both cited above, in order to provide for a method for patterning cells. Both references teach methods of patterning. WO patent suggests, if not teaches, that such methods can be modify and partnered with biological materials via a masking system. Singhvi clearly teach methods for patterning cells. To provide a surface for cells to be applied within at least one channel of a masking system as disclosed by the WO patent cited above, is clearly an obvious step and one of skill would have been motivated by the combined teachings of Singhvi and WO patent to form patterns of cells using such a method. Each of the steps are well known and disclosed in the cited prior art combination and in the absence of persuasive evidence to the contrary the claims are prima facie obvious.

All claims fail to be patentably distinguishable over the state of the art discussed above and cited on the enclosed PTO-892 and/or PTO-1449. Therefore, the claims are properly rejected.

The remaining references listed on the enclosed PTO-892 and/or PTO-1449 are cited to further show the state of the art.

No claims are allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah K. Ware whose telephone number is (703) 308-4245. The examiner can normally be reached on Mondays to Fridays from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn, can be reached on (703) 308-4743. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3592.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.


DEBORAH K. WARE
PATENT EXAMINER

Deborah K. Ware

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February 22, 2003